**Board Of Intermediate & Secondary Education, HYDERABAD, SINDH.**

Secondary School Certificate Part – II Annual Examination 2011

Annual Examination 2011 | **PHYSICS** | HYDERABAD BOARD

Time: 15 Minutes M.Marks: 15

Note: (1) Attempt all the questions. Each questions carries ONE mark.
(2) Do not copy down the part questions in your answer book. Write only the answer in full against the proper number of the Question and its part, and MCQs question paper must be attached with answer book.
(3) The Code of your question paper must be mentioned in bold letters in the answer book.

## Section-A

### Multiple Choice Question (MCQs)

NOTE: Choose the correct answer for each from the given options:

(i) **The founder of Algebra, a famous muslim scientist born in 780 A.D was......**
(a) Al-Khwarzmi (b) Al-Kindi (c) Al-Beruni (d) Naseer uddin Tusi

(ii) **One metre is equal to ............ nanometer.**
(a) $10^3$ (b) $10^6$ (c) $10^9$ (d) $10^{12}$

(iii) **.......... is a sealar quantity.**
(a) Displacement (b) Force (c) Speed (d) Velocity

(iv) **If the velocity of a moving body decreases by equal amounts in equal intervals of time, how small they may be, the body is said to have..........accleration.**
(a) Zero (b) Uniform and Positive
(c) Uniform and Negative (d) None of these

(v) **If the force acting on a body is double, then the acceleration produced is..........**
(a) (b) (c) Double (d) quadrupled

(vi) **If a stone is tied to the end of a string and whirled in a circle, the tension in the string provides..............**
(a) Centripetal Force (b) Centrifugal Force (c) Pressure (d) Reaction

(vii) **Energy possessed by a body by virtue of tits motions called......... energy.**
(a) Potential (b) Electrical (c) Chemical (d) Kinetic

(viii) **If the fulcrum of a lever is between the effort and resistance, it is a............class lever.**
(a) First (b) Second (c) Third (d) None of these

(ix) **The S.I unit of pressure is............**
(a) Pascal (b) Newton (c) Kilogram per cube metre (d) Newton metre

(x) **The molecules of a solid..........**
(a) Move about haphazardly (b) Remain stationary
(c) Vibrate (d) None of these

(xi) **If the frequency of waves f=30 cycles per second and wave length $\chi$ = 0.2 metre, then the velocity of wave is............**
(a) 6 $ms^{-1}$ (b) 150 $ms^{-1}$ (c) 0.0066 $ms^{-1}$ (d) 8 $ms^{-1}$

(xii) **The pupil of eye controls............**
(a) The focal length of the eye (b) The range of accommodation of eye
(c) The distance of distinct vision (d) The amount of light reaching the eye

(xiii) **Electromagnetic waves carry..............**
(a) Wave length (b) Frequency (c) Charge (d) Energy

(xiv) **The materials in which electric current can flow easily due to their low reistance are called...............**
(a) Insulators (b) Semi conductors (c) Conductors (d) None of these

(xv) **To measure current in a circuit an ammeter is always connected............**
(a) In series (b) In parallel (c) In any way (d) parallel to voltmeter

(xvi) **The emission or rays from the nucleus is called.............**
(a) Chemical process (b) Atomic process
© Radio activity (d) Atomic dispersion

(xvii) **The commercial unit of electric energy is known as..........**
(a) Ohm (b) Volt (c) Kilo watt hour (d) None of these

TIME ALLOWED: 2:40 MINUTES MARKS: 68

## SECTION – B

NOTE: **Answer Any EIGHT of the Following Questions. All Quistions Carry Equal Marks.** 40

Q.No:2 What is the importance of standard uints in every day life?
Q.No:3 Define Scalar and vector quantities. Give five examples of each.
Q.No:4 Derive eauation: $S = Vit + \frac{1}{2} at^2$
Q.No:5 State newton's First Law of Motion giving example from every day life.
Q.No:6 Define torque, what are the factors on which it depends?
Q.No:7 An object of mass 3 kg is moving on a rough surface with a velocity of 16 m/s. it covers a distance a of 20 m before coming to rest. Find the opposing force.
Q.No:8 Defien Kinetic Energy, derive an expression for the kinetic energy of a body in motion.
Q.No:9 What is an inclined plane? Determine the mechanical advantage of an inclined plane.
Q.No:10 Convert $5^0$F to its equivalent temperature on Celsius and Kelvin Scales.
Q.No:11 What is the difference between a real and virtual image?
Q.No:12 State coulomb's Law and define the unit of charge.
Q.No:13 Explain what is meant by magnetic field?

## SECTION – C

NOTE: **Answer Any TWO of the Following Questions. All Quistions Carry Equal Marks.** 28

Q.No:14 (a) Derive an equation for the mass of the earth by applying law of gravitation
(b) A series circuit consisting of three resistors having 40 ohms, 50 ohms and 20 ohms Respectively, is connected across a voltage source of 120 V. Find the current in the circuit and potential difference across each resistors.

Q.No:15 (a) Define stress, strain, Hook's law and youngs modulus.
(b) An automobile is running on a circular high way with a velocity of 120 m/s. the radius of the high way is 100 m. what is the centripetal acceleration.

Q.No:16 (a) Describe the construction and working of compound microscope.
(b) An exit ramp on a major free way is 200 m long and upper end is 10 m above the high way. Determined the effort required to move a truck with trailer whose mass is 2000 kg. to the end of ramp.